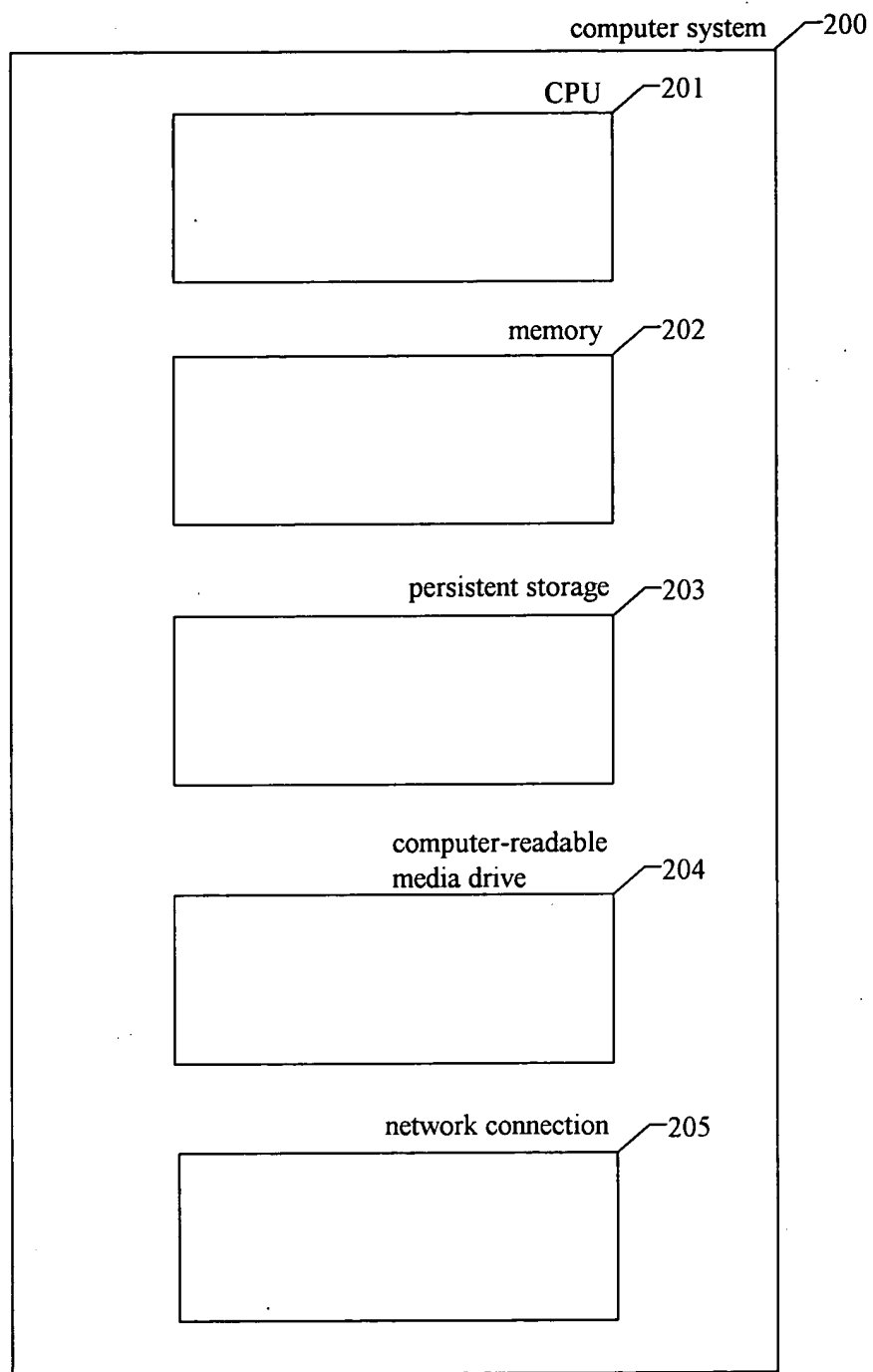


**Fig. 1**



**Fig. 2**

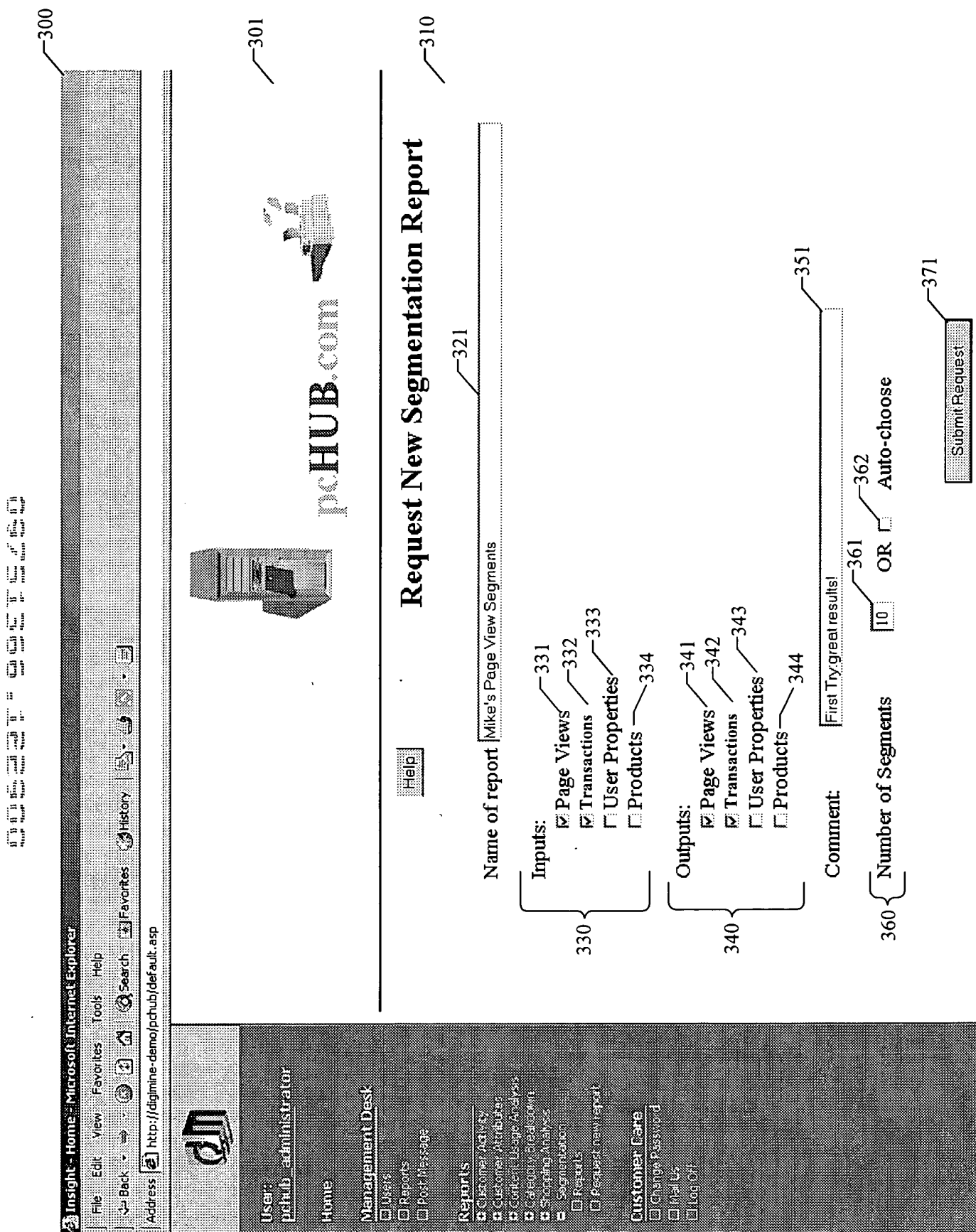
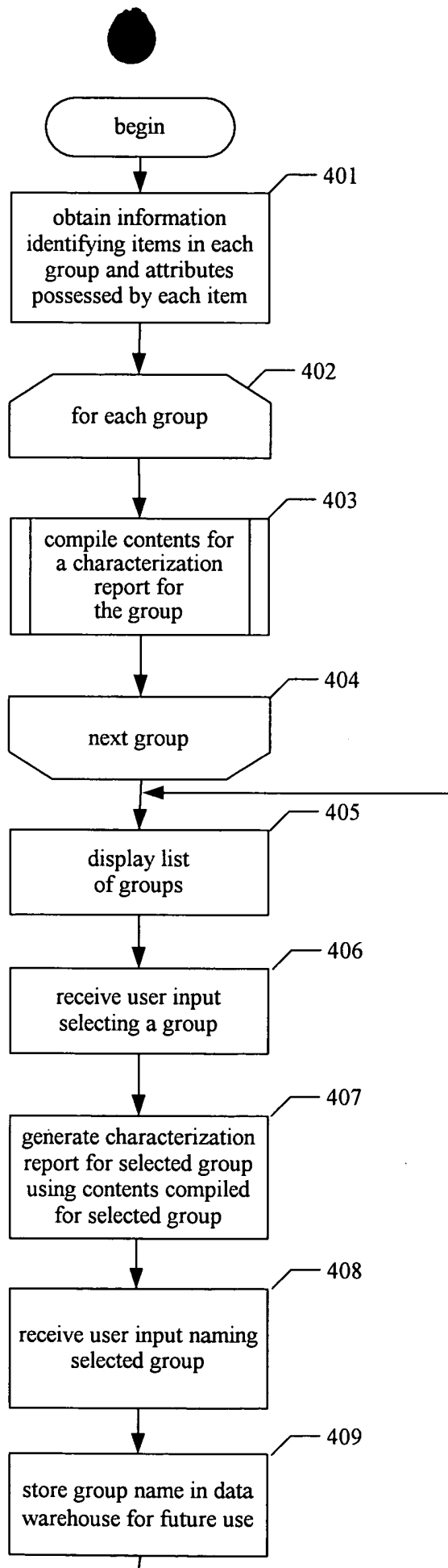
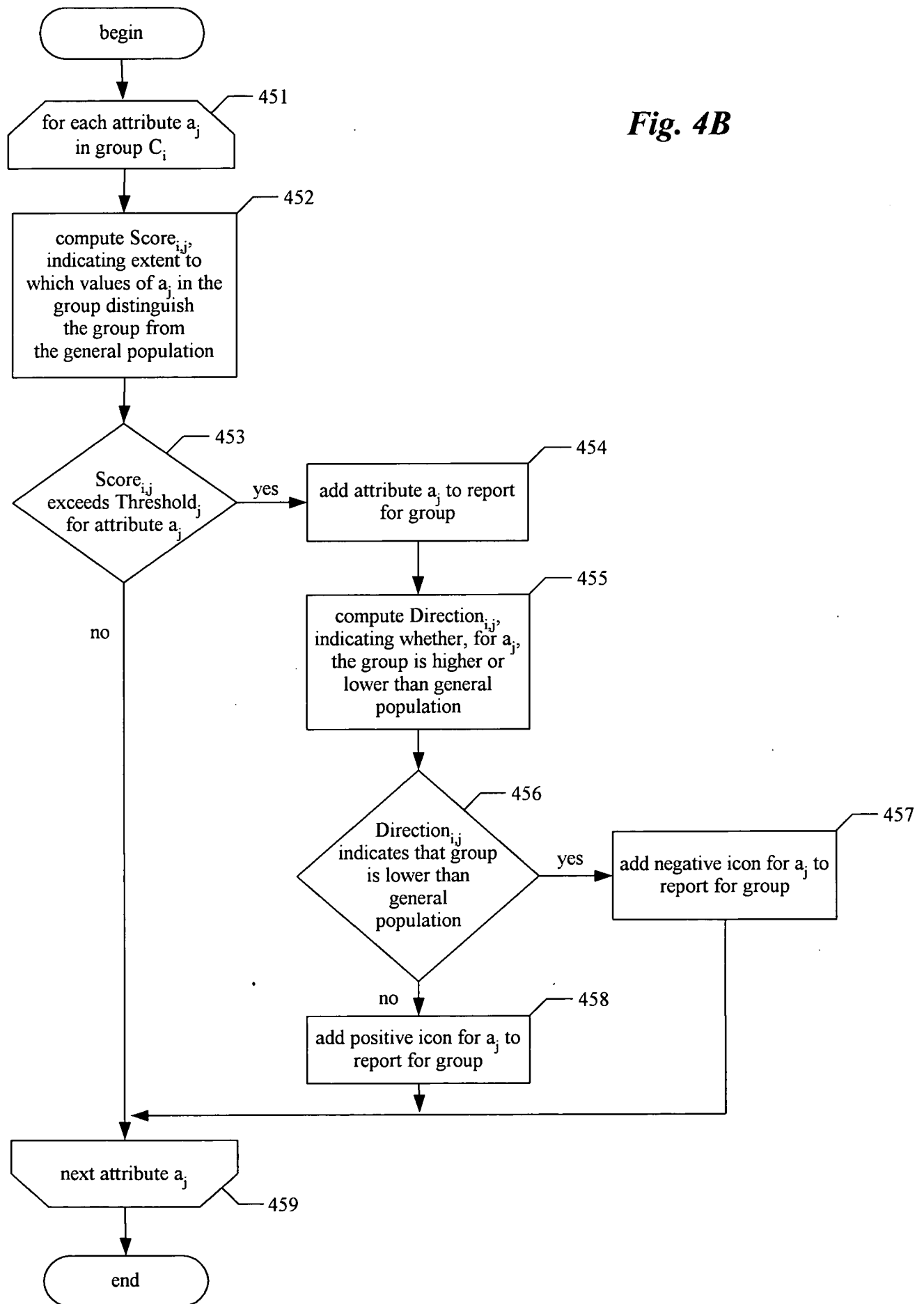


Fig. 3













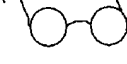


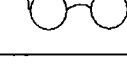





**Fig. 4A**

**Fig. 4B**



501			502	503	User Group Table	500
Group	User ID	User Attributes				
		⋮				
510	3	5	PurchasedAnyProduct, PurchasedAdventureGame			
511	3	16	PurchasedAnyProduct, PurchasedDrivingGame			
512	3	63	PurchasedAnyProduct, PurchasedAdventureGame			
513	3	64	PurchasedAnyProduct, PurchasedAdventureGame			
515	3	65	PurchasedAnyProduct, PurchasedAdventureGame, PurchasedDrivingGame			
515	3	67	ViewedHomePage			
516	3	69	PurchasedAnyProduct, PurchasedAdventureGame			
517	3	84	PurchasedAnyProduct, PurchasedDrivingGame			
518	3	89	PurchasedAnyProduct, PurchasedAdventureGroup, PurchasedDrivingGame			
519	3	90	PurchasedAnyProduct, PurchasedAdventureGame			
520	4	6	PurchasedAnyProduct, PurchasedAdventureGame, ViewedHardDrivePage			
521	4	7	ViewedPage, ViewedHardDrivePage, ViewedNetworkCardPage			
522	4	26	ViewedHardDrivePage, ViewedNetworkCardPage			
523	4	44	ViewedRacingGamePage, ViewedNetworkCardPage			
524	4	46	CheckedOrderStatus, ViewedHardDrivePage, ViewedNetworkCardPage			
525	4	52	ViewedHomePage, ViewedNetworkCardPage			
526	4	55	ViewedHardDrivePage, ViewedNetworkCardPage			
			⋮			

**Fig. 5**

Attribute	Threshold	Icon ID	Positive Icon Image	Negative Icon Image
ViewedHomePage	80	1		
CheckedOrderStatus	41	2		
PurchasedAnyProduct	50	3		
UsedCoupon	70	4		
ViewedAdventureGamePage	55	5		
PurchasedAdventureGame	55	6		
ViewedRacingGamePage	60	5		
Purchased Racing Game	60	6		
ViewedNetworkCardPage	72	5		
PurchasedNetworkCard	72	6		
ViewedHardDrivePage	71	5		
PurchasedHardDrive	68	6		

**Fig. 6**

	Cluster Membership	
Attribute $a_j$	In $C_i$	Not in $C_i$
True	$a$	$b$
False	$c$	$d$

700

702

703

704

701

**Fig. 7**



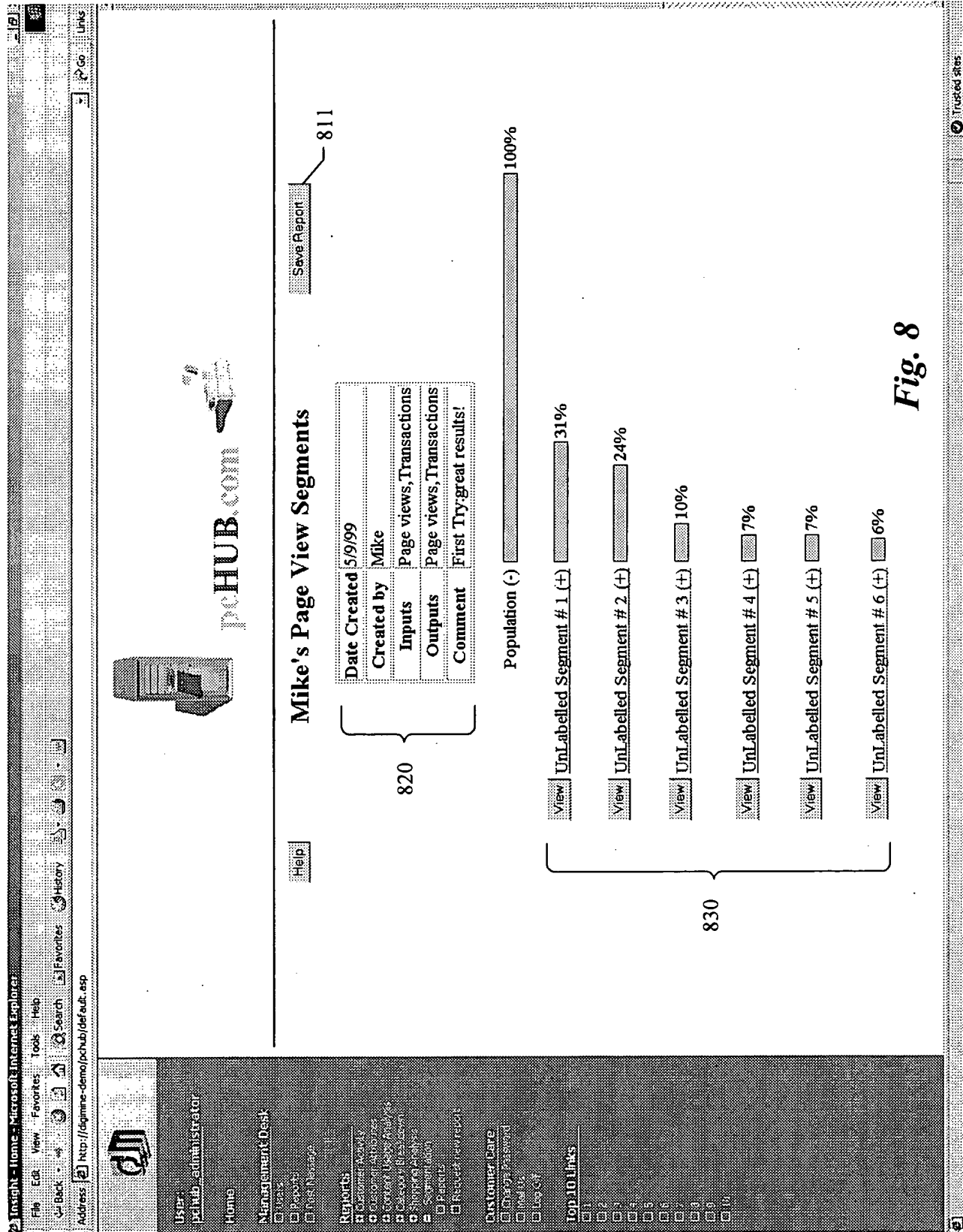
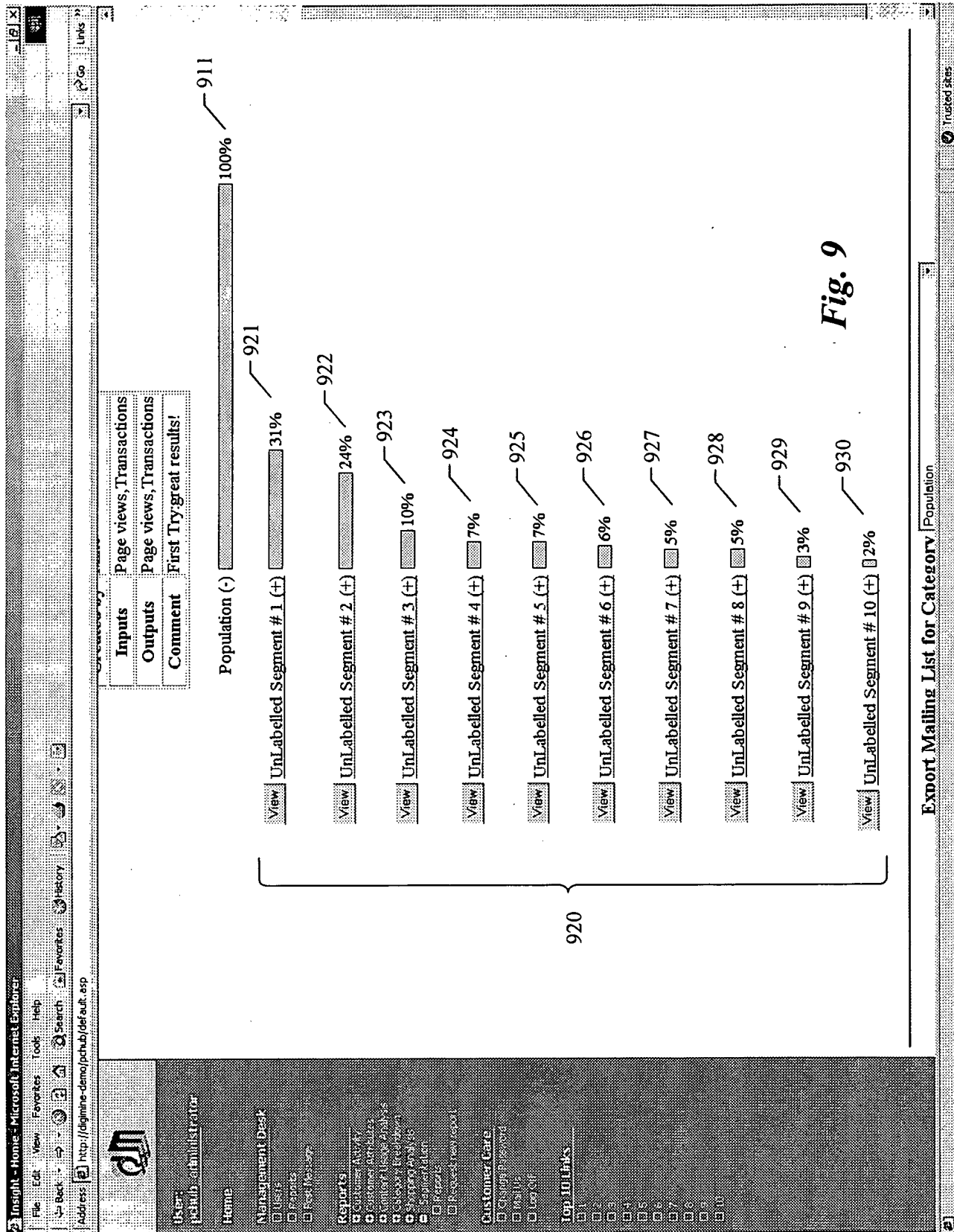


Fig. 8



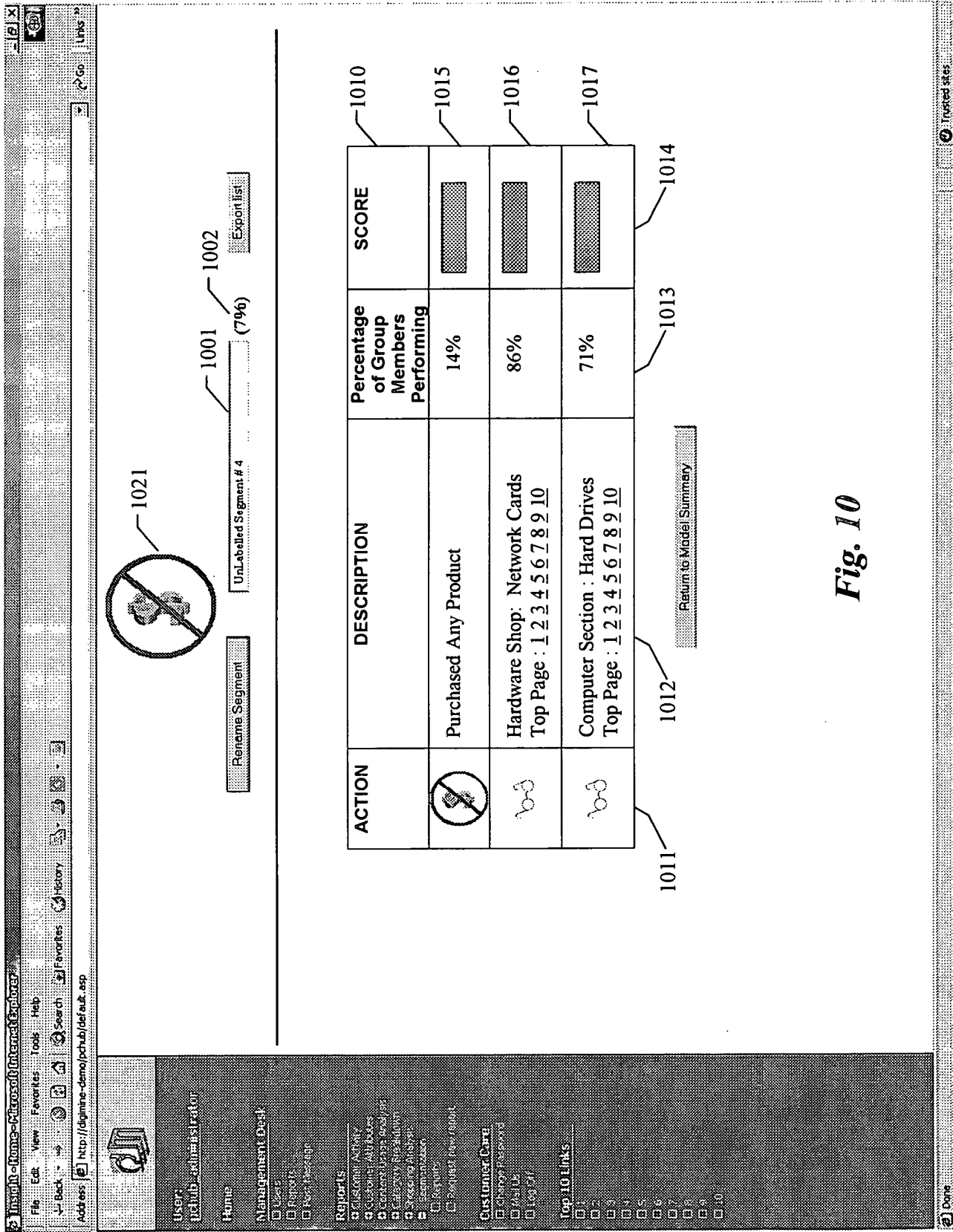


Fig. 10



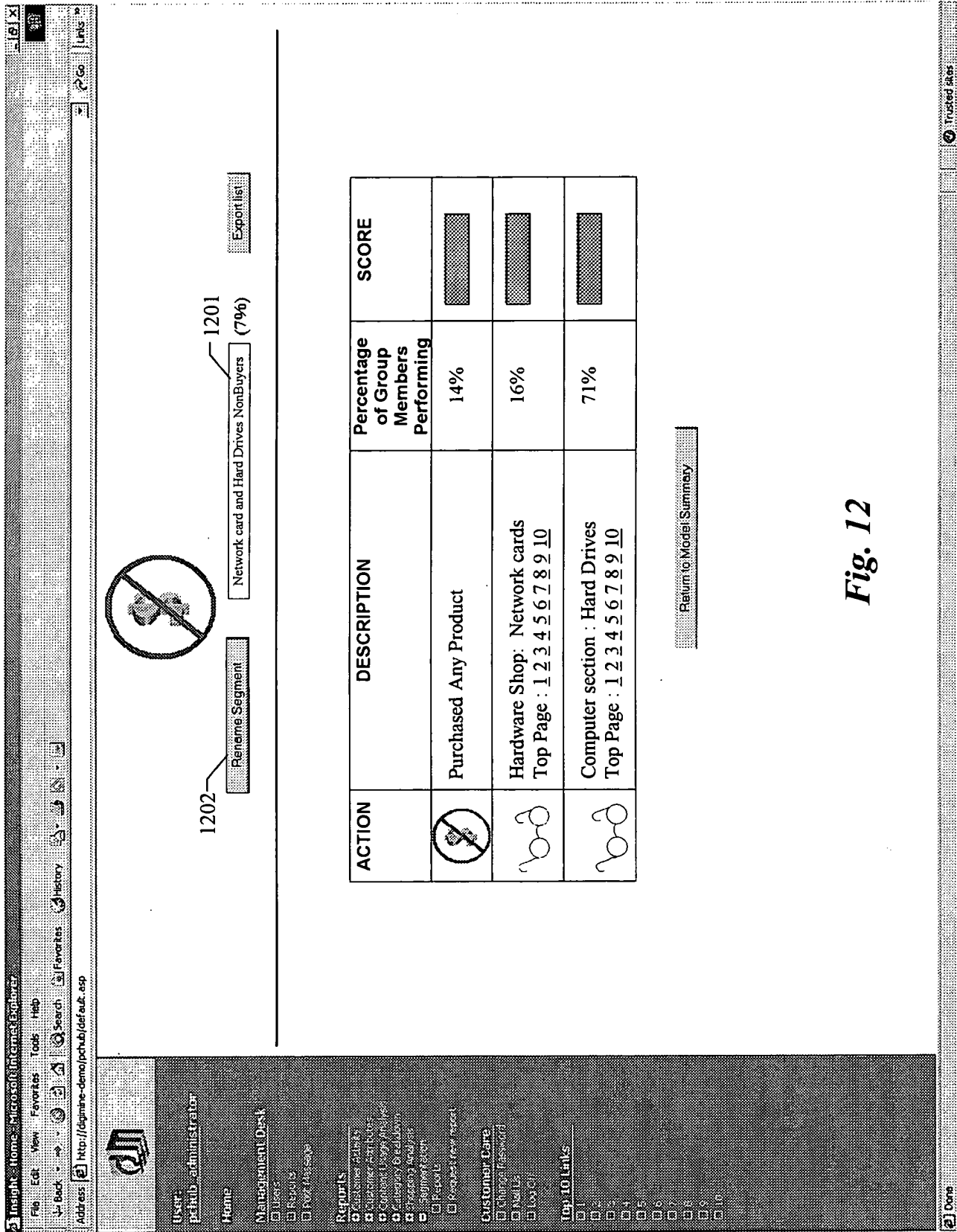
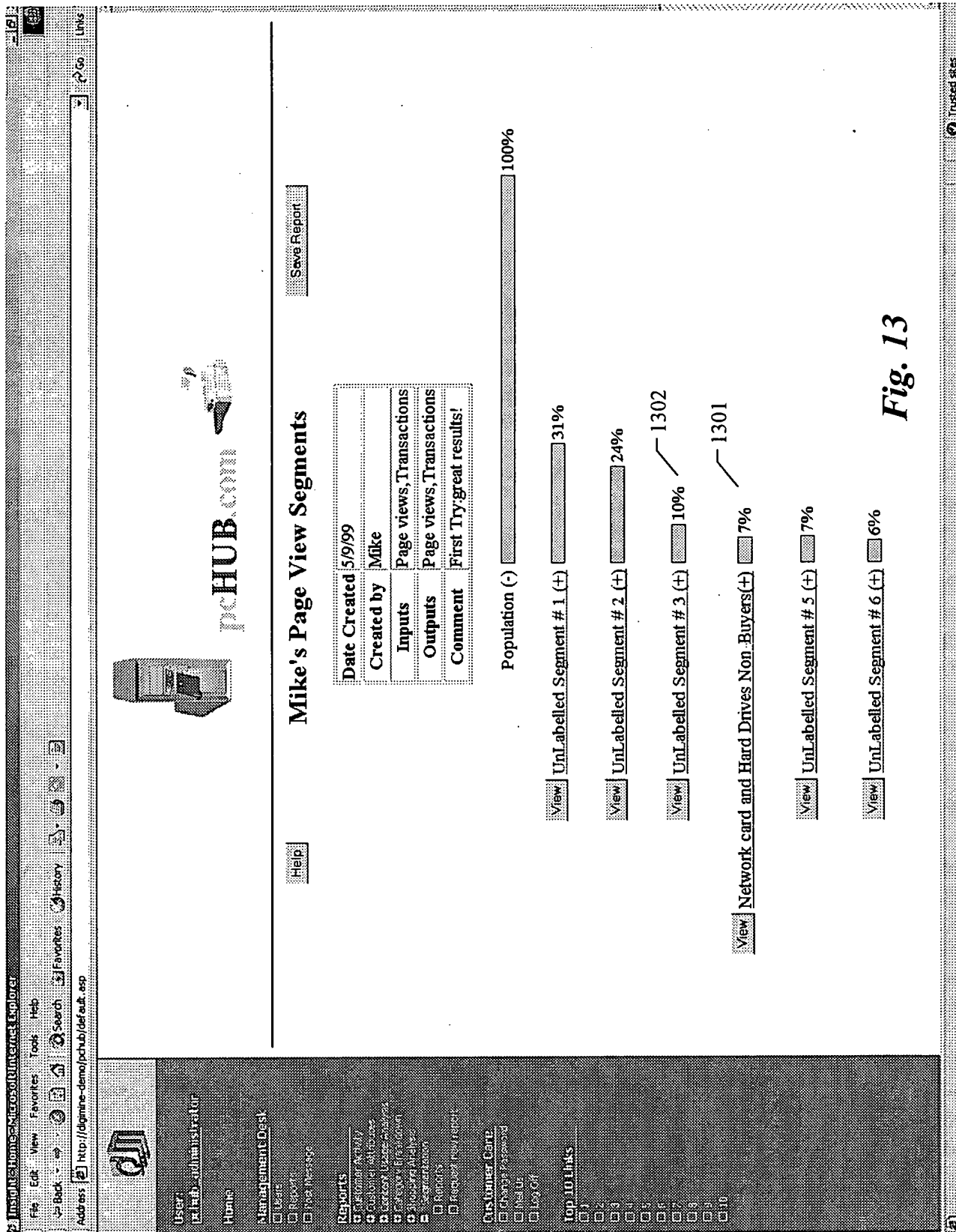


Fig. 12



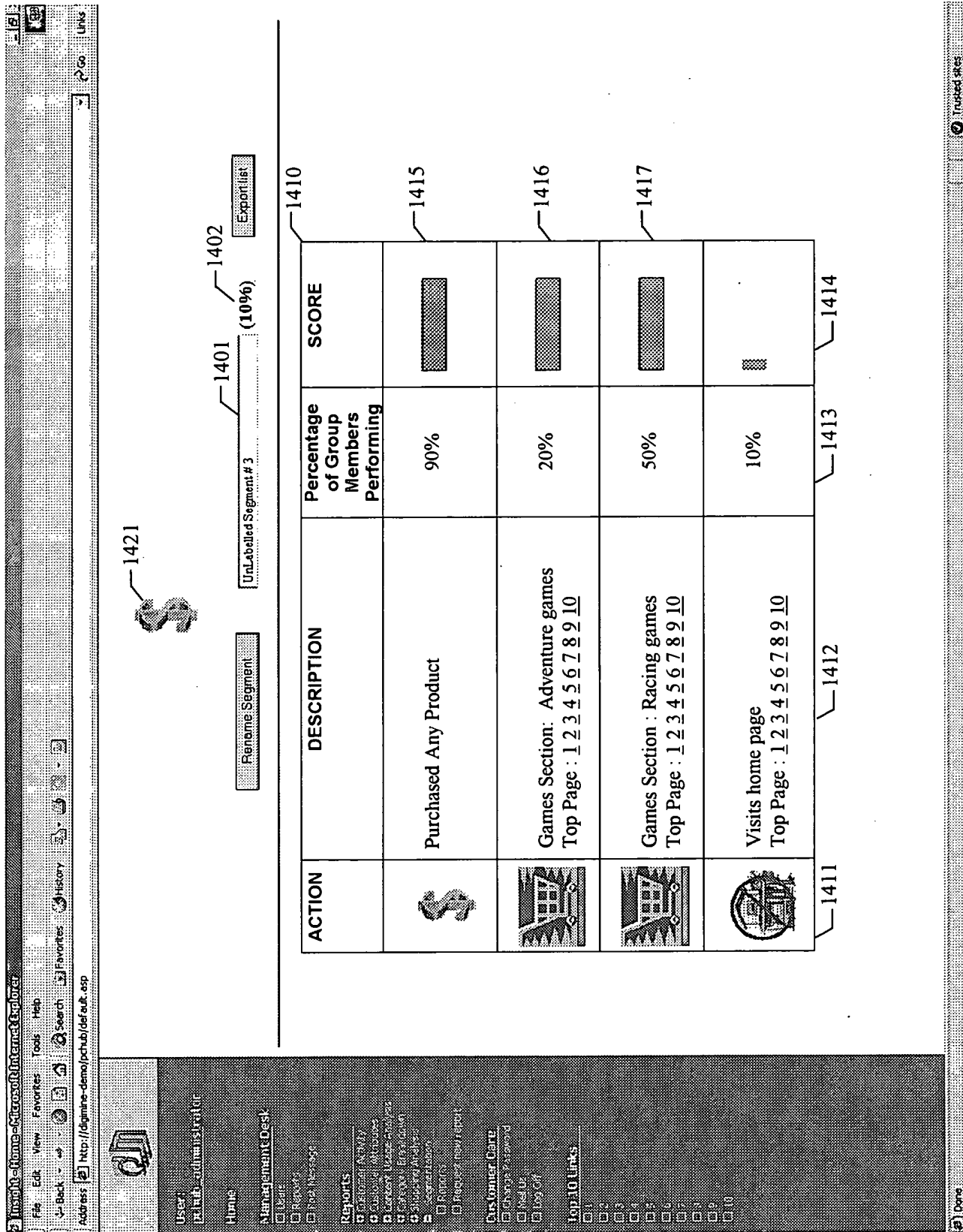


Fig. 14



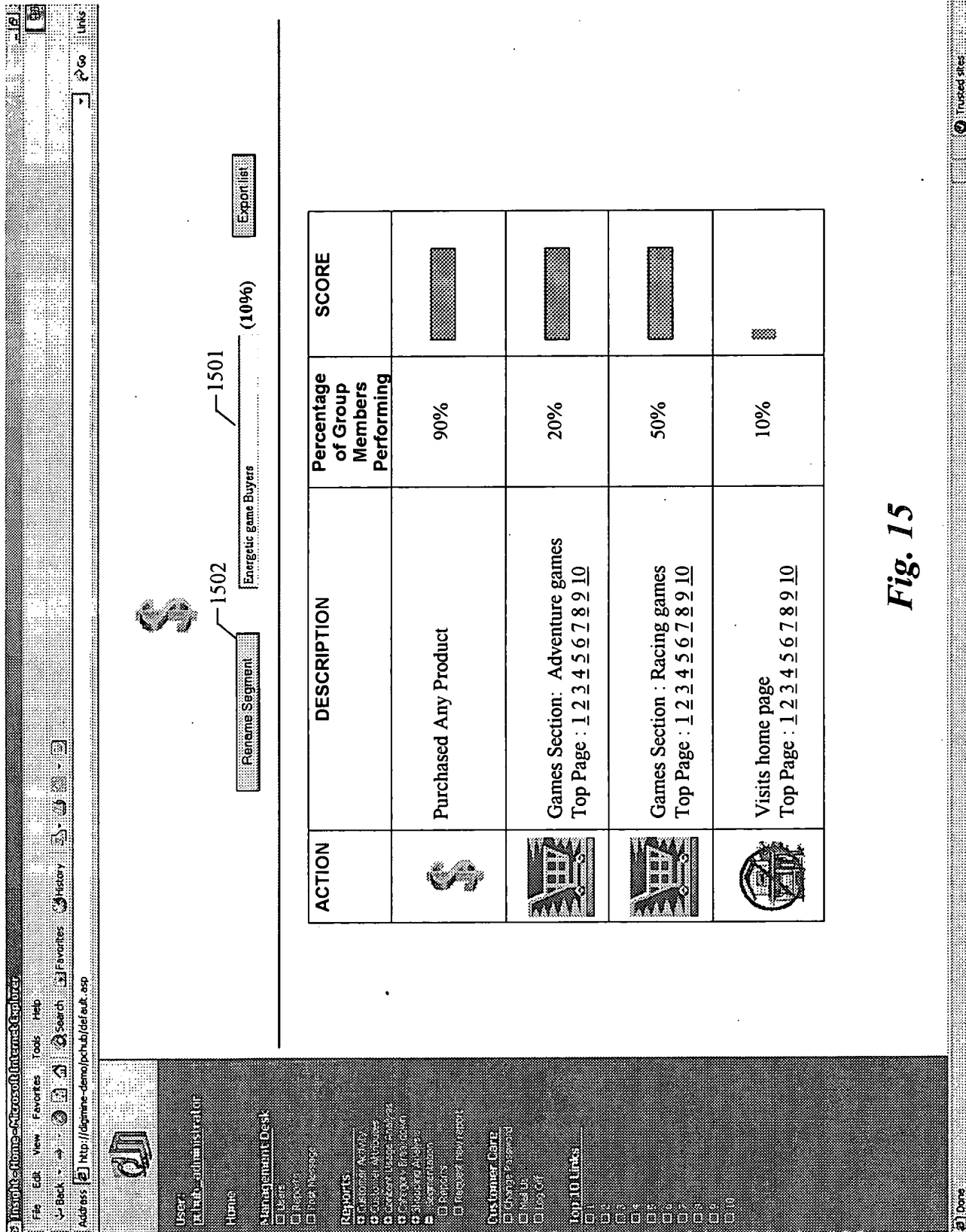


Fig. 15



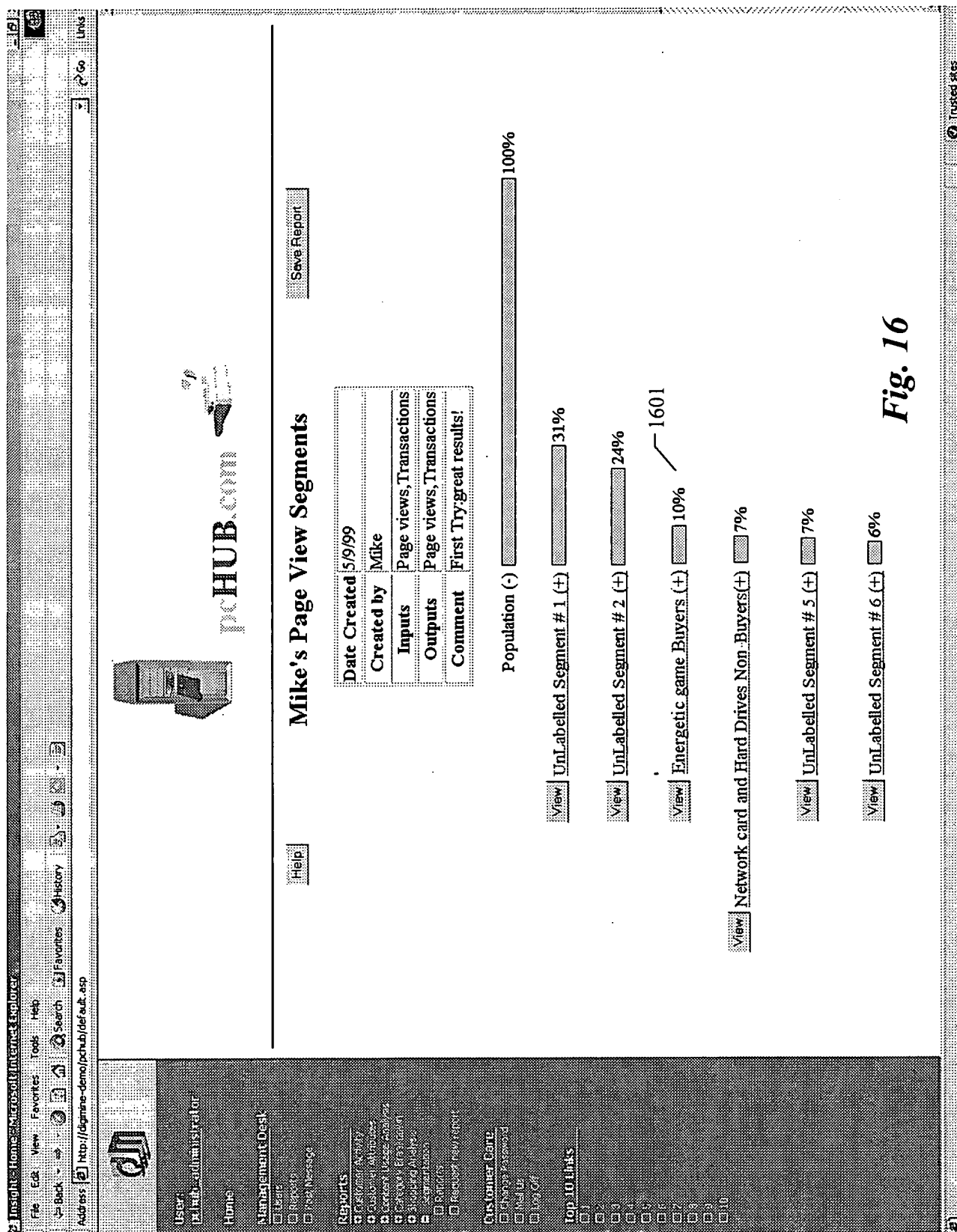


Fig. 16

